a magnetized encoder mounted on one of the inner and outer members which serves as a rotary member and including an elastic member made of a base material mixed with a powder of magnetic material, said elastic member being bonded by vulcanization to the magnetized encoder and having a series of alternating magnetic poles of opposite polarities formed in a direction circumferentially of the rotary member;

wherein under a thermal endurance test condition in which the magnetized encoder is subjected to 1,000 thermal cycles each consisting of heating at 120°C for one hour followed by cooling at –40°C for one hour, the magnetized encoder retains the following initial magnetic characteristics when measured at a point 2.0 mm distant from a magnetic sensor:

Single pitch deviation: ± 2% or less and

Magnetic flux density: ± 3 mT or higher.

5. (Once Amended) The wheel bearing assembly as claimed in Claim 3, wherein the sealing device includes first and second annular sealing plates fitted to members of the inner and outer members that are different from each other;

wherein said first and second annular sealing plates are of a generally L-shaped section each including a cylindrical portion and a radial upright portion and confront with each other, wherein the first sealing plate is mounted on one of the inner and outer members which serves as the rotary member with the radial upright portion thereof positioned on an outer side of the bearing assembly;

wherein said elastic member mixed with the powder of the magnetic material is bonded by vulcanization to the radial upright portion of the first sealing plate and has the alternating magnetic poles of the opposite polarities defined therein in the direction circumferentially thereof;

wherein the second sealing plate is provided with a side lip slidingly engaged with the radial upright portion of the first sealing plate and a radial lip slidingly engaged with the cylindrical portion of the first sealing plate; and

wherein the radial upright portion of the first sealing plate has a radial outer edge spaced the slight distance radially from the cylindrical portion of the second sealing plate.

Please add the following new claims:

7. (New) The wheel bearing assembly of claim 5, wherein said elastic member has an end cover portion formed integrally therewith and adapted to cover a radially outer edge portion of said radial upright portion of said first sealing plate.

8. (New) The wheel bearing assembly of claim 5, wherein an outer end of said cylindrical portion of said second sealing plate has a wall thickness smaller than a remaining part of said cylindrical portion of said second sealing plate, said outer end being bent radially inward.

9. (New) The wheel bearing assembly of claim 6, wherein said magnetic material is made of ferrite.